

**15. Contemporary Analysis of Incidentally Diagnosed Renal Artery Aneurysms: Observation versus Surgical Repair**

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**OBJECTIVE:** To compare the clinical outcomes of patients undergoing observation or open surgical repair of renal artery aneurysms (RAA).

**METHODS:** A retrospective review of 80 patients' data with incidentally diagnosed RAA (1996 - 2008) was performed. Patients observed (Group A = 53 patients/54 RAA) were compared to the surgical group (Group B = 27 patients/32 RAA). Indications for repair were size > 20mm (11), increasing size (2), hypertension (7), hypertension and size (6) and preference (1).

**RESULTS:** Group A included 26 men and 27 women; Group B had 8 men and 19 women (p=NS). Mean RAA size was 14.7 mm (8-31, Group A) and 18.5 mm (8-38, Group B) (p=0.04). Group B were younger (mean age 53 vs 65, p<0.001), had a higher incidence of fibromuscular dysplasia (33% vs 6%, p=0.004) and severe hypertension (26% vs 6%, p=0.01). Both groups had similar creatinine (Cr) ( $1.17 \pm 0.88$  vs  $1.05 \pm 0.32$  mg/dl) and Cr clearance (CrCl) ( $76.6 \pm 25.5$  vs  $83.3 \pm 26.5$  ml/min). Moderate or complete RAA calcification was more common in Group A (92%) than Group B (37%) (p<0.0001). Aneurysm locations were similar in each group. Group A had a mean of  $4 \pm 2.3$  surveillance images/patient during mean follow-up of 4.7 yrs. No RAAs ruptured. Five RAAs in Group A increased in size (mean 2.4 mm, range 1-4), but none required repair. Hypertension at last follow-up in Group A was unchanged in 98% and worse in 2%. Group B underwent aneurysmectomy with interposition graft (52%), patch closure (30%), re-implantation (7%), primary closure (7%) and nephrectomy (4%), with 77% of repairs performed in-vivo. There were no early deaths. Early morbidity included pancreatitis in 1 (3.7%), graft occlusion in 1 (3.7%) and minor complications in 5 (19%). Post-operatively, hypertension was unchanged in 67%, cured in 4%, improved in 19% and worse in 11%. At late follow-up in Group B (mean=2.5 y) 1 (4%) had a pancreatic pseudocyst, but none had graft-related complications. There were 5 late deaths in Group A and 1 in Group B, all unrelated to RAA. No long-term differences in Cr, CrCl and CrCl %-change/yr were identified between groups.

**CONCLUSION:** For patients followed serially with calcified RAA < 20mm without size increase, the risk of rupture is zero and the rate of worsening hypertension or renal function is extremely low. When indicated based on size >20mm or hypertension, surgical repair is safe and durable.

**9:45 A.M. COFFEE BREAK - VISIT EXHIBITS**